

**401 KAR 65:005. Liquefied petroleum gas carburetion systems.**

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division for Air Quality

Relates to: KRS Chapters 224,234

Pursuant to: KRS 13.082, 224.033, 224.021, 234.321

Necessity and Function: KRS 234.321 requires the Department for Natural Resources and Environmental Protection to establish emission standards for liquefied petroleum gas carburetion systems. This regulation complies with that requirement.

**Section 1. General Provisions.**

- (1) Applicability. This regulation is applicable only to motor vehicles utilizing liquefied petroleum gas for fuel which are required to be equipped with carburetion systems approved by the department in order to be eligible for tax exemptions as set forth in KRS 234.321.
- (2) Definitions. As used in this regulation, all terms not defined herein shall have the meaning given them in 401 KAR 234.321.
  - (a) "Exhaust emissions" means substances emitted to the atmosphere from any opening downstream from the exhaust port of a motor vehicle engine.
  - (b) "Light-duty vehicle" means any motor vehicle either designed primarily for transportation of property and rated at 6,000 pounds gross vehicle weight or less or designed primarily for transportation of persons and having a capacity of twelve (12) persons or less.
  - (c) "Heavy-duty vehicle" means any motor vehicle either designed primarily for transportation of property and rated at more than 6,000 pounds gross vehicle weight or designed primarily for transportation of persons and having a capacity of more than twelve (12) person.
  - (d) "Gross vehicle weight" means the manufacturer's gross weight rating.
- (3) Vehicle modification to use liquefied petroleum gas:
  - (a) In addition to all other standards or requirements imposed, any modification of a motor vehicle which allows that vehicle to use liquefied petroleum gas (LPG) for fuel shall not in its operation and function, or malfunction:
    1. Cause any emission into the ambient air of any noxious or toxic matter that would not be emitted in the operation of such motor vehicle or motor vehicle engine operating without such a modification; or
    2. Cause any unsafe condition which may endanger the motor vehicle, or its occupants or other persons or property.
  - (b) In cases where a modification of a vehicle has been made which enables gasoline and/or liquefied petroleum gas to be used as fuel, evidence satisfactory to the department must be presented to the department must be presented to the department that the modification will not cause increased emissions by the vehicle when that vehicle is being fueled by gasoline.
  - (c) The reactivity of the exhaust gases must not be increased by any

modification to a carburetion system, which modification allows the use of liquefied petroleum gas or fuel.

(4) Application for approval:

(a) An application for approval of any carburetion system which uses liquefied petroleum gas may be to the department by any manufacturer.

(b) The application shall be in writing, signed by an authorized representative of the manufacturer, and shall include the following:

1. Identification and description of the carburetion systems, vehicles and engines with respect to which approval is required.
2. A complete description of all modifications and additions to the engine or vehicle.
3. Emission data on such vehicles and engines tested in accordance with the applicable exhaust emission test procedures.
4. A description of tests performed to ascertain compliance with the general standards, and the result of such test.
5. A statement listing the name and location of the testing facility, its qualifications to perform such tests, a certification that such testing facility was at the time the test was performed, approved to conduct such tests by the U.S. Environmental Protection Agency.
6. A statement of recommended maintenance procedures and equipment necessary to assure that the carburetion system, vehicle and engine in operation conform to the requirements of this regulation, and a description of the program for training of personnel for such maintenance.
7. An agreement that any modifications made to the system in the field will be properly identified and reported to the department. To meet this requirement, the model number shall be permanently marked on the carburetor. An adhesive label listing the information in subparagraphs 8. to 12. of this paragraph shall be furnished for installation on the air cleaner.
8. Manufacturer's name and address.
9. Accepted by the Department for Natural Resources and Environmental Protection for use on engine sizes . . . cubic inch to . . . cubic inch.
10. Spark timing.
11. Idle speed.
12. Mixture adjustment (if used).

(c) If, after a review of the data submitted by the manufacturer, the department determines that a carburetion system to use liquefied petroleum gas conforms to this regulation, it will issue an approval with respect to such system.

**Section 2. Standards for Exhaust Emissions.** The applicable exhaust emission standards for liquefied petroleum gas carburetion systems are as follows:

- (1) Light-duty vehicles.
  - (a) Hydrocarbons emissions shall not exceed 0.41 grams per vehicle mile.
  - (b) Carbon monoxide emissions shall not exceed 3.4 grams per vehicle mile.
  - (c) Oxides of nitrogen emissions shall not exceed 0.4 grams per vehicle mile.
- (2) Heavy-duty vehicles.
  - (a) Hydrocarbons plus oxides of nitrogen (as NO<sub>2</sub>) emissions shall not exceed sixteen (16) grams per brake horsepower hour.
  - (b) Carbon monoxide emissions shall not exceed forty (40) grams per brake horsepower hour.

**Section 3. Test Procedures for Vehicle and Engine Exhaust Emissions.**

- (1) The department will approve carburetion systems which a manufacturer has successfully tested at a facility which is determined to be qualified for performing such testing by the U.S. Environmental Protection Agency. All testing procedures shall be conducted in accordance with the procedures established by the department.
- (2) At least one (1) vehicle in each engine displacement class for which the exemption is sought must be tested for emission data. Each manufacturer, however, must accumulate data on a minimum of two (2) vehicles for each carburetor model to qualify for approval.

DISPLACEMENT CLASSES

Class	Engine Displacement
A	Under 140 Cubic Inches
B	140-200 cubic inches
C	200-250 cubic inches
D	250-300 cubic inches
E	300-375 cubic inches
F	Over 375 cubic inches

- (3) Carburetion systems shall be installed in accordance with manufacturer's specifications and instructions in order to qualify for the exemption.

Effective Date: June 6, 1979

	Date Submitted to EPA	Date Approved by EPA	Federal Register
Original Reg	JUN 29, 1979	JAN 25, 1980	45 FR 6092